Service
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Service Manual

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Version 2.0

PHILIPS

1.0 TECHNICAL SPECIFICATION

VIDEO/ AUDIO Characteristic Testing discs

Test discs：DOLBY: Dolby Test disc
ABEX: TDV-540A

VIDEO FORMAT

DVD / SVCD / JPEG / MPEG4 / DIVX3, 4,5,6(Home theater)

AUDIO FORMAT

CD / MP3(32 - 320 kbps)

Video (PAL / NTSC)

White bar : 714mV +10%/-20%
Sync. Amplitude: 286mV ±40mV
Burst/chroma ratio: ± 15%
S/N luminance: >42 dB

POWER CONSUMPTION

Power-Supply(AC-DC Adaptor):
Supply voltage: AC 100~240V ±10%
Supply Power consumption(AC adaptor 100/240V): 9V 0.8A +10%
DC Power supply(Operate voltage range): 6.2V-15.49V±10%
Standby Power (AC adaptor, no load),264VAC: <0.75W

GENERAL DESCRIPTION

Optical Pickup: ASA PM2381-D(850PH)
Chip set/ Solution: Sunplus SPHE8202P-A ,8202PS-A
Disc Size:8cm/12cm

1.1 PCBs Location

VERSION VARIATIONS

Type/Versions: / Service policy / Board in used:	PD9000						
	12	05	51	79			
MAIN BOARD	M	M	M	M			
KEY BOARD	M	M	M	M			
TFT BOARD	M	M	M	M			

***TIPS: C -- Component Lever Repair.**
M -- Module Lever Repair
X -- OCX

1.2 System, Region Code, etc. Setting Procedure

Procedure to change region code of your DVD Portable

1. Power ON the DVD player and do not insert DISC inside player
2. Setup→ Prefer
   9→ 6→5→3
   The LCD display showed the existing region Code
3. Press▲(navigation up)or▼(navigation down)
   repeatedly to select the number from 1 to 6.
4. Then press OK to confirm your region code.
5. Refer below table for your region code setting

Region Code	Region
1	USA
2	EUROPE
3	ASIA PACIFIC
4	AUSTRALIA, NEW ZEALAND, LATAM
5	RUSSIA, INDIA
6	CHINA

Procedure for SW upgrade

1. The upgrade will provide a document re-named: PHILIPS.BIN
2. “PHILIPS.BIN” copy to CD-ROM into the data;
3. Reading the CD-ROM，in accordance with prompt，press ”OK” key to upgrade

Warning: Do not unplug the AC adapter during firmware upgrade to prevent flash corrupt of the set!!

Procedure to check SW version of your DVD Portable

1. OPEN
2. Press SETUP MENU
3. Select Preferences
4. Select Version Info
5. Press “OK” key

2.0 SAFTETY INSTRUCTIONS

GB **WARNING**

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

ESD

NL **WAARSCHUWING**

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

F **ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

D **WARNUNG**

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kan die Lebensdauer drastisch reduzieren.
Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

I **AVVERTIMENTO**

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

GB

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

NL

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

F

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utiliséés les piéces de rechange identiques à celles spécifiées.

D

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Original zustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

I

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

"After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist. The leakage current must not exceed 0.5mA."

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

GB **Warning !**

Invisible laser radiation when open.
Avoid direct exposure to beam.

S **Varning !**

Osynlig laserstrålning när apparaten är öppnad och spärren är urkopplad. Betrakta ej strålen.

SF **Varoitus !**

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

DK **Advarse !**

Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsaettelse for stråling.

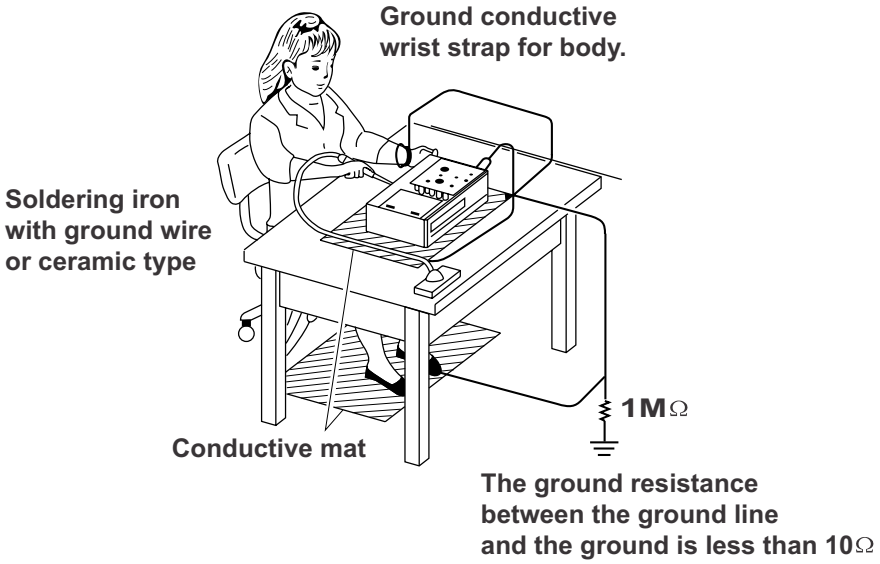
2.1 ESD PROTECTION

- レンズには絶対に触れないでください。
- DO NOT TOUCH THE LENS.
- LINSE NICHT BRÜHREN.
- NE PAS TOUCHER LA LENTILLE.

When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

PREPARATION OF SERVICING

Pickup Head consists of a laser diode that is very susceptible to external static electrocity.
Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, its life might be shortened. When replacing, use a conductive mat, soldering iron with ground wire,etc. to protect the laser diode form damage by static electricity.
And also, the LSI and IC are same as above.



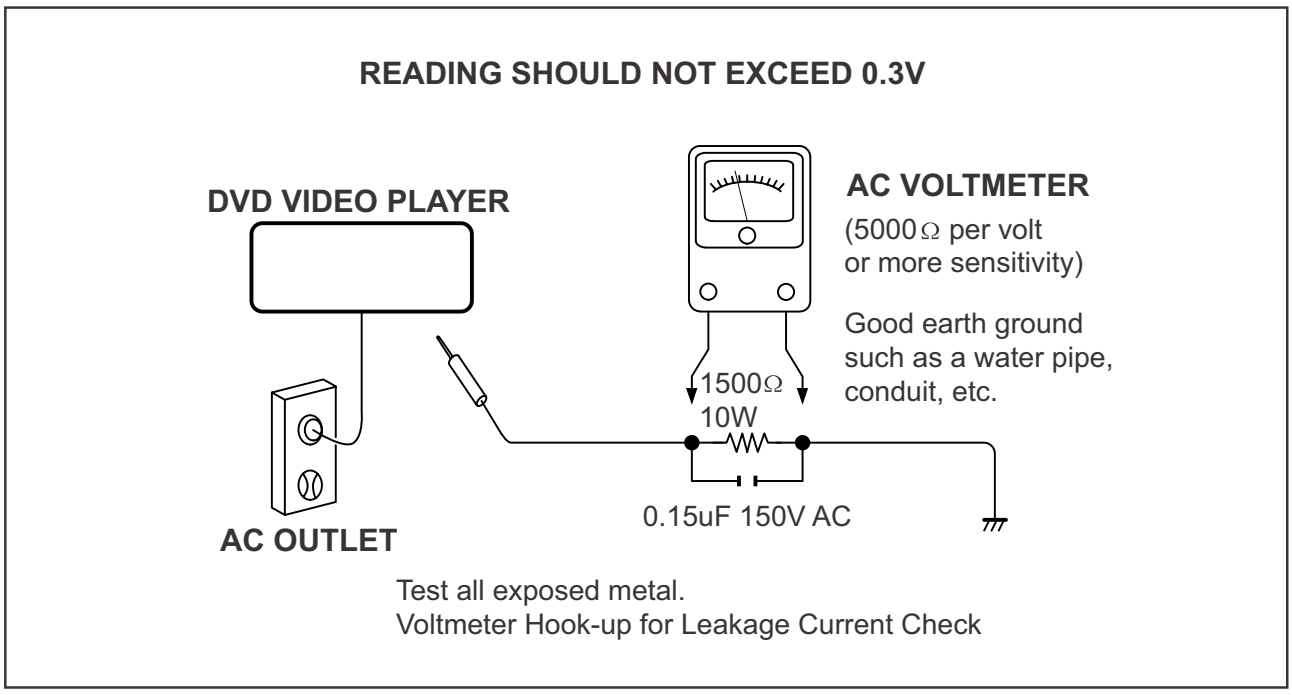
SAFTY NOTICE

SAFTY PRECAUTIONS

LEAKAGE CURRENT CHECK

Plug the AC line cord directly into a 120V AC outlet (do not use an isolation transformer for this check). Use an AC voltmeter, having 5000Ω per volt or more sensitivity. Connect a 1500Ω 10W resistor,paralleled by a 0.15uF 150V AC capacitor between a knomn good earth ground (water pipe, conduit, etc.) and all exposed metal parts of cabinet (antennas, handle bracket, metal cabinet screwheads, metal overlays, control shafts, etc.).

Measure the AC voltage across the 1500Ω resistor. The test must be conducted with the AC switch on and then repeated with the AC switch off. The AC voltage indicated by the meter may not exceed 0.3V.A reading exceeding 0.3V indicates that a dangerous potential exists, the fault must be located and corrected. Repeat the above test with the DVD VIDEO PLAYER power plug reversed.
NEVER RETURN A DVD VIDEO PLAYER TO THE CUSTOMER WITHOUT TAKING NECESSARY CORRECTIVE ACTION.



Test all exposed metal.
Voltmeter Hook-up for Leakage Current Check

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

2.2 SAFETY INSTRUCTIONS

Battery Handling Guideline

Since the battery is packed in soft package, to ensure its better performance, it's very important to carefully handle the battery

2.2.1 Soft Aluminium foil

The soft aluminum packing foil is very easily damaged by sharp edge parts such as Ni-tabs, pins and needles.

- Don't strike battery with any sharp edge parts
- Trim your nail or wear glove before taking battery
- Clean worktable to make sure no any sharp particle

2.2.2 Sealed edge

Sealing edge is very flimsy

- Don't bend or fold sealing edge

2.2.3 Folding edge

The folding edge is form in battery process and passed all hermetic test.

- Don't open or deform folding edge

2.2.4 Tabs

The battery tabs are not so stubborn especially for aluminum tab.

- Don't bend tab

2.2.5 Mechanical shock

- Don't Fall, hit, bend battery body

2.2.6 Short

Short terminals of battery is strictly prohibited, it may damage battery.

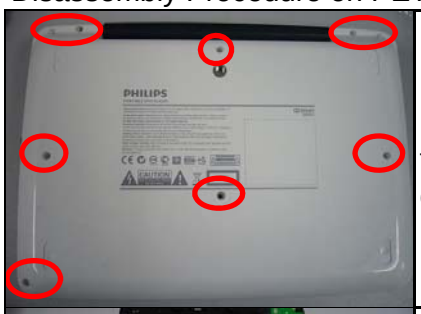
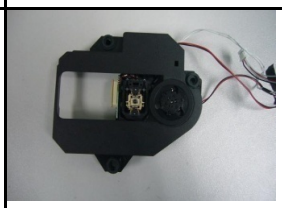
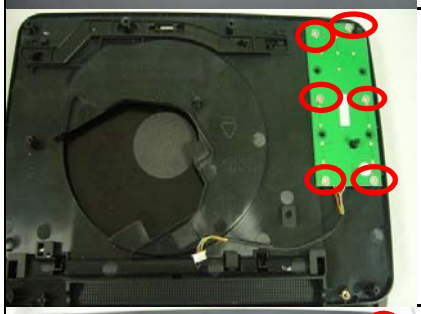
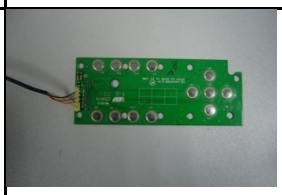
3.0 Instruction for Use

You can download this information from the following websites:

http://www.philips.com/support
http://www.p4c.philips.com

4.0 MECHANICAL INSTRUCTION

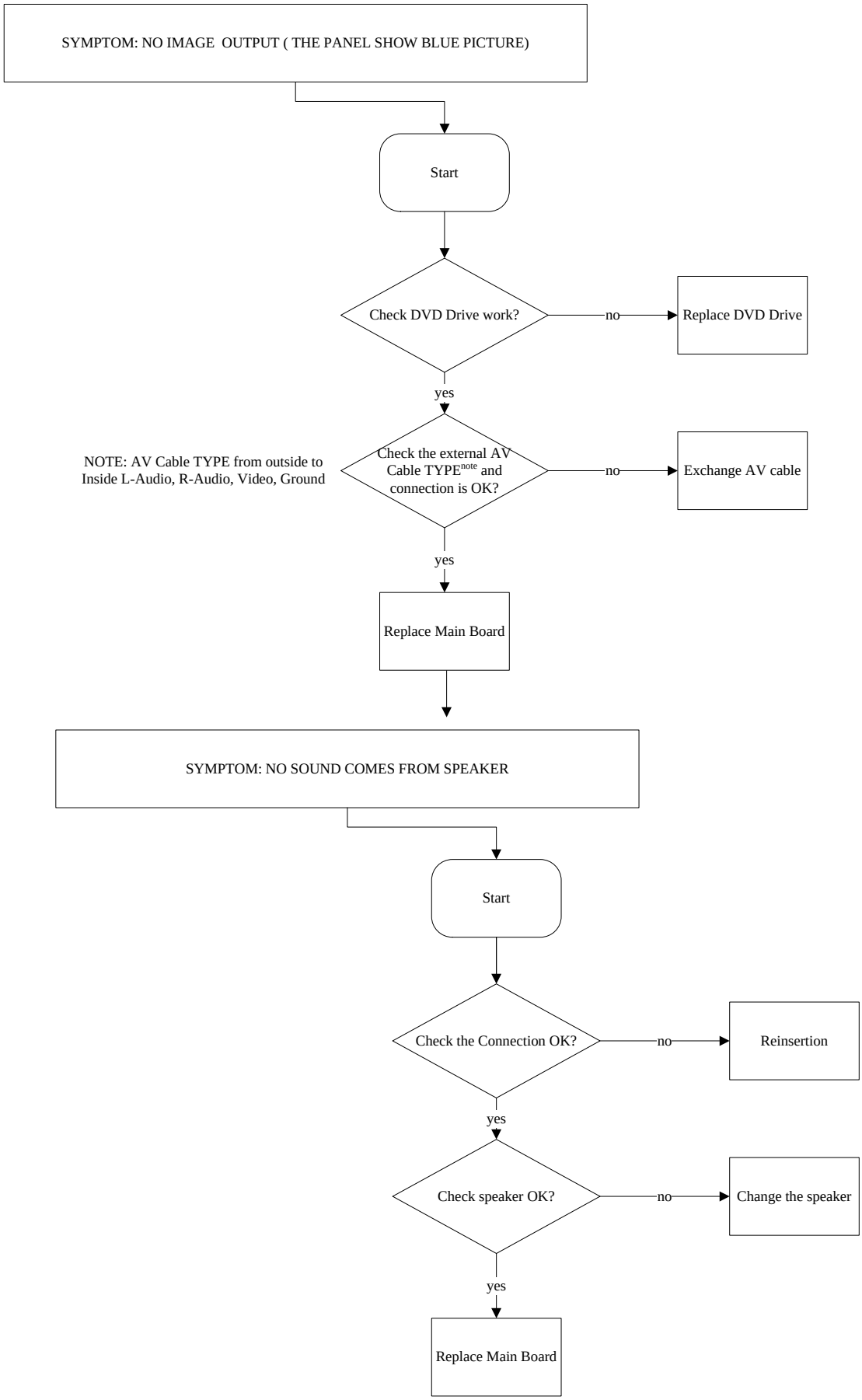
Disassembly Procedure on PET941D

	Remove nine screws on back cabinet to separate top cabinet and back cabinet.	screws 9pcs
	Generally open the front cabinet.	
	Remove 3 screws and disassemble the connecter on the DVD LOADER.	
	Remove four screws and disassemble the connecter on the Main board and Battery.	screws 4pcs.
	Remove six screws on the key board.	
	Remove the speaker grill and 4pcs screws. .	

	Remove the 2pcs screws and disassemble the connecter on the TFT board.	

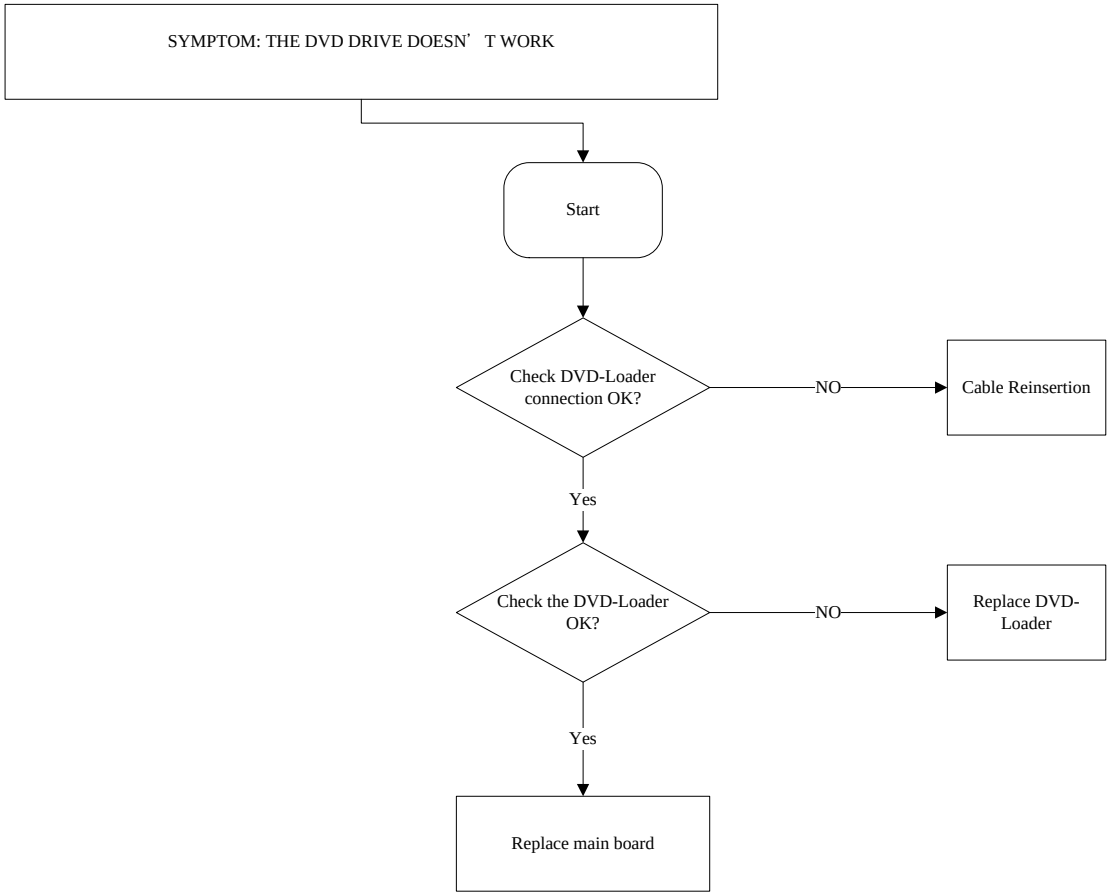
5.0 TROUBLESHOOTING

SYMPTOM: NO IMAGE / NO SOUND



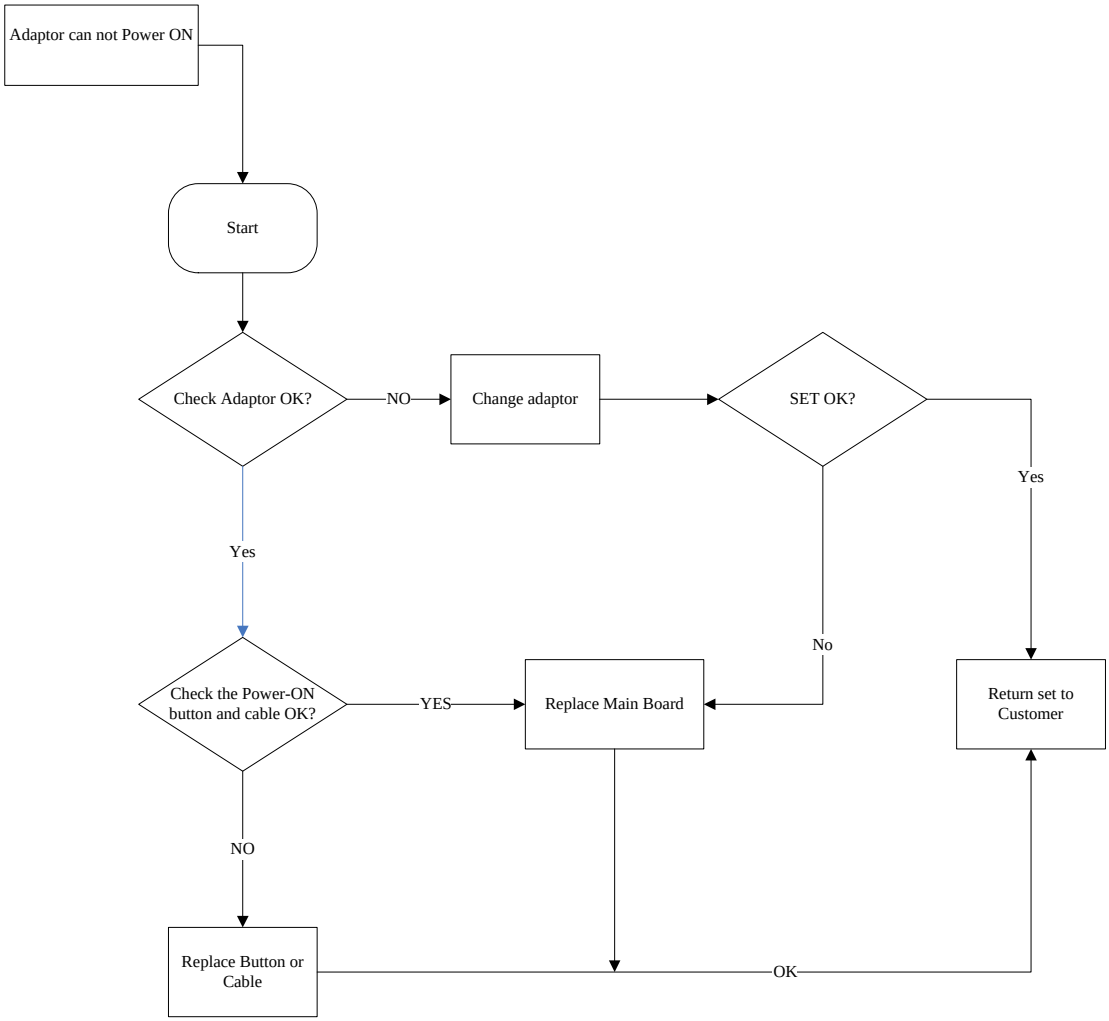
5.0 TROUBLESHOOTING

SYMPTOM: THE DVD DRIVE DOES NOT WORK



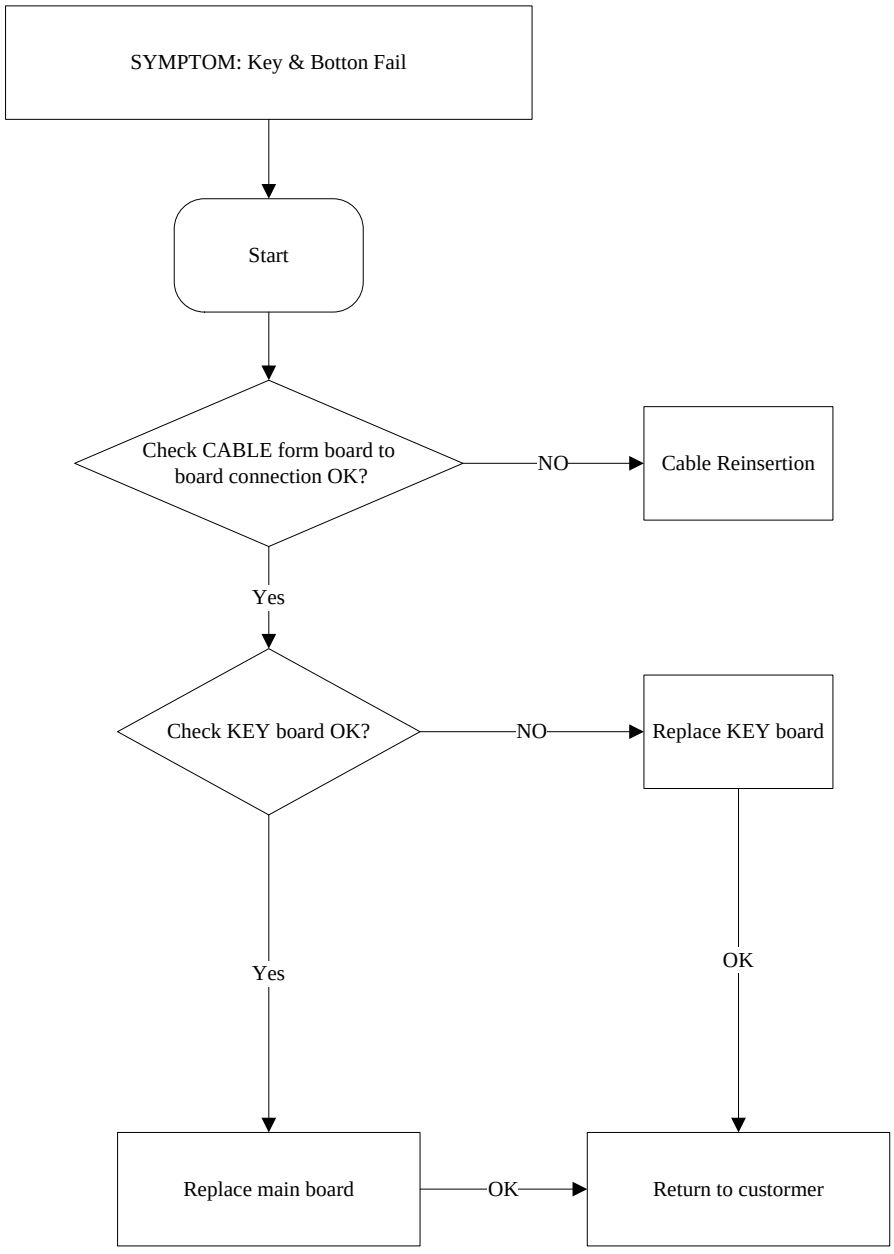
5.0 TROUBLESHOOTING

SYMPTOM: ADAPTOR CANNOT POWER ON

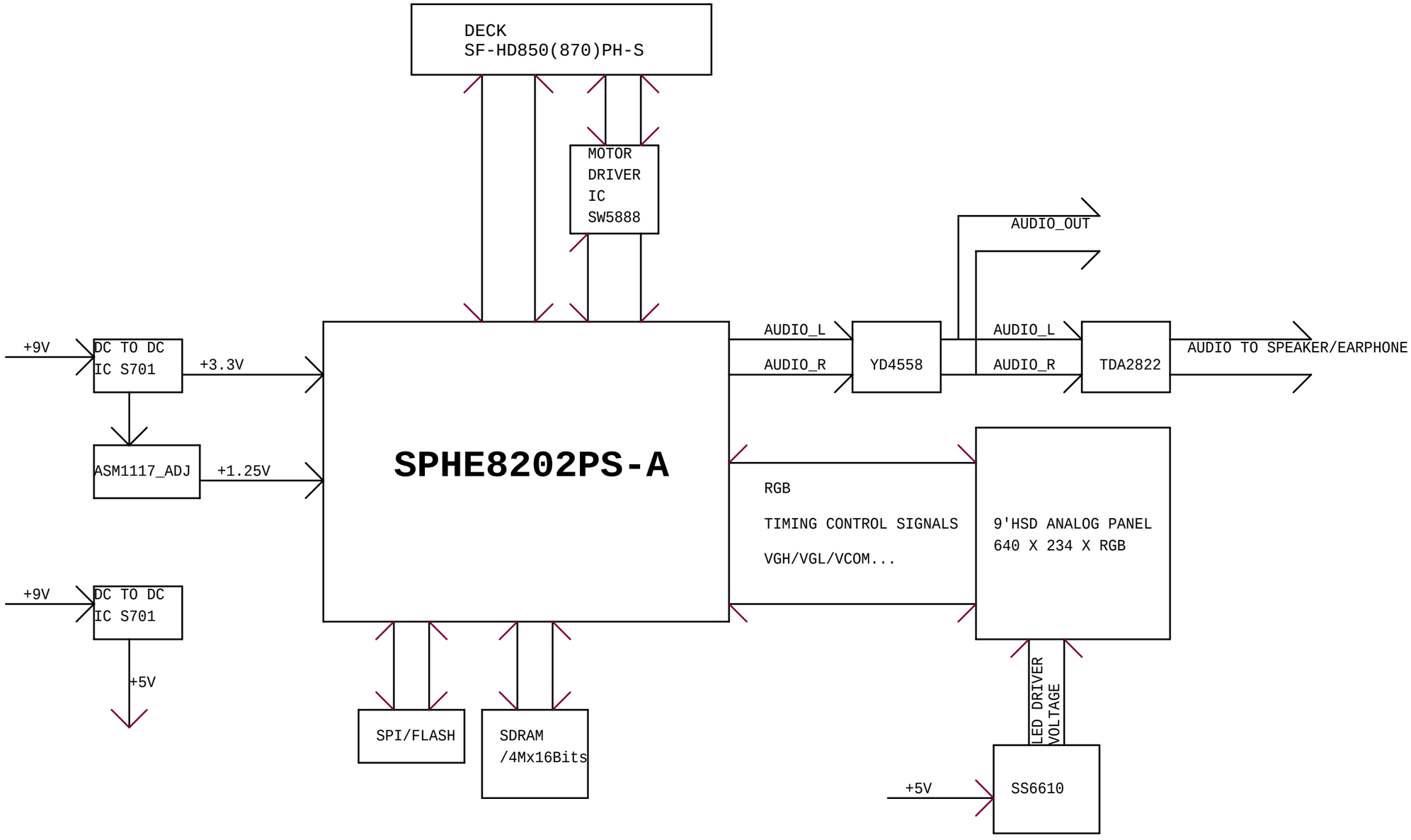


5.0 TROUBLESHOOTING

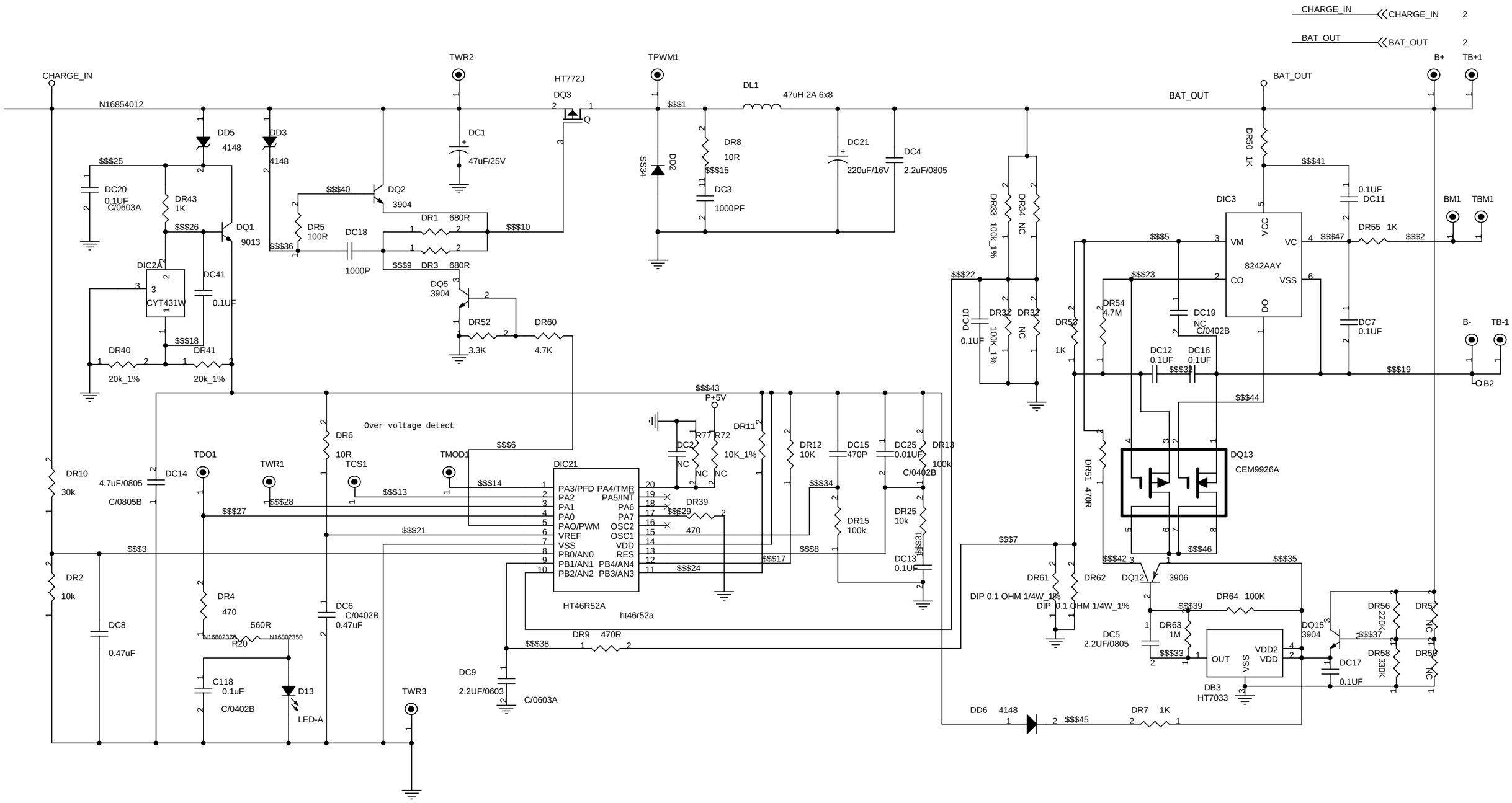
SYMPTOM: KEY & BOTTON FAILURE



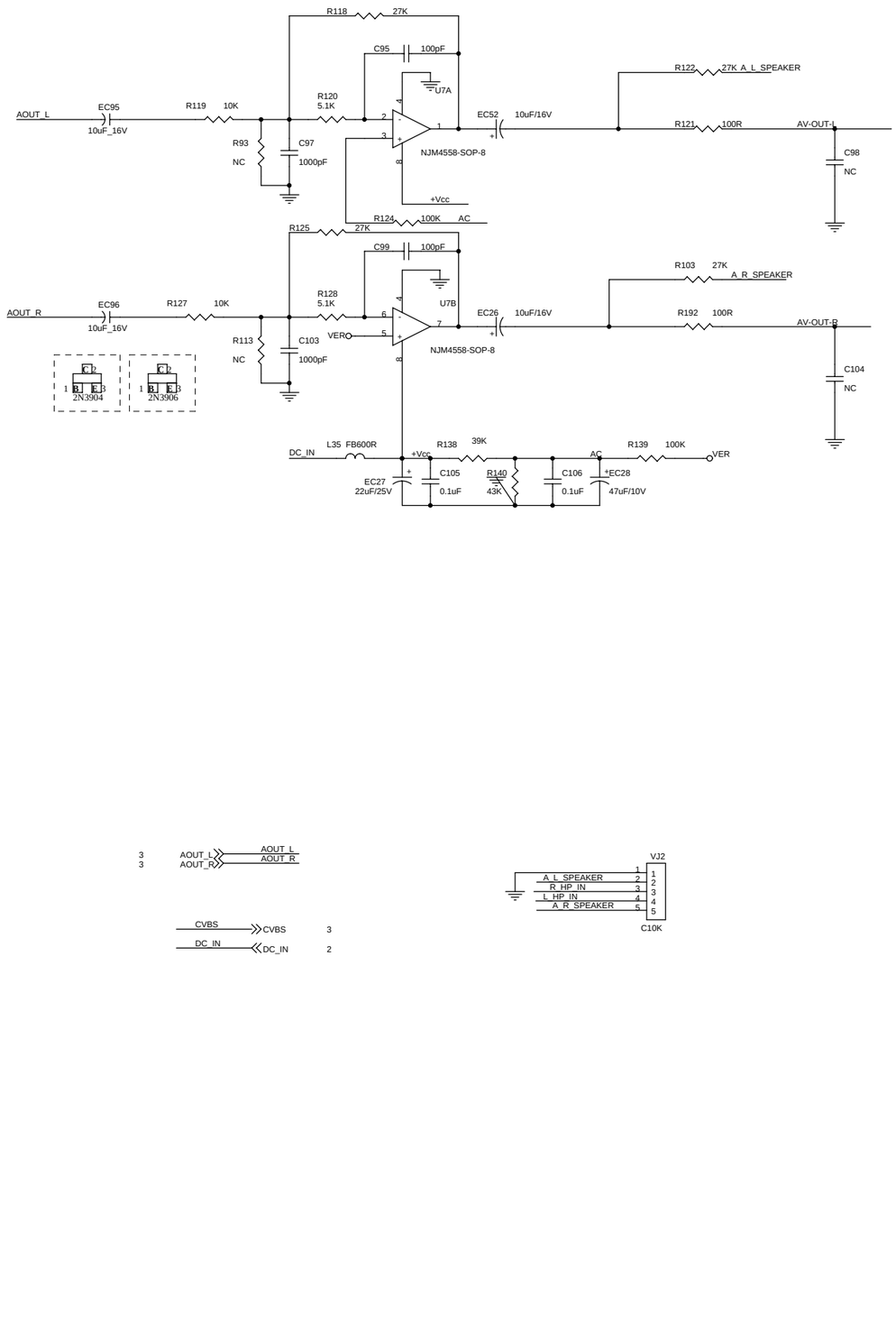
OVERALL BLOCK DIAGRAM



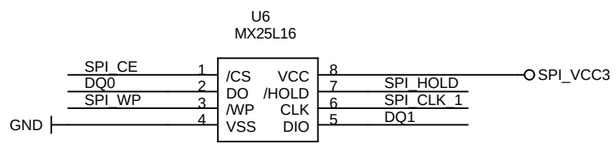
CIRCUIT DIAGRAM-CHARGE

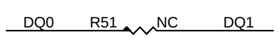


CIRCUIT DIAGRAM-AUDIO&VIDEO

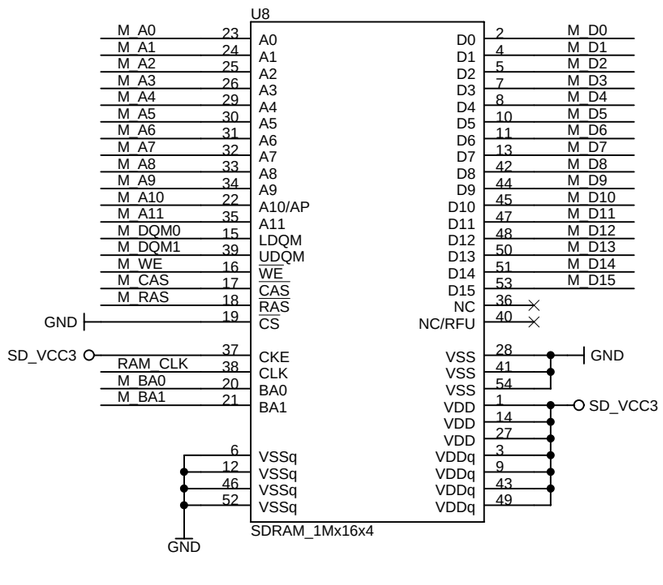


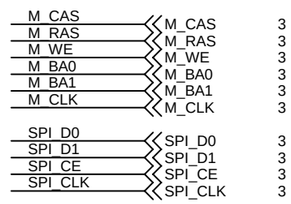
CIRCUIT DIAGRAM-SDRAM





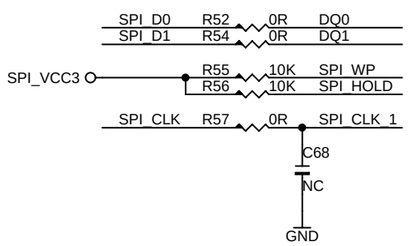
For 1bit SPI Flash

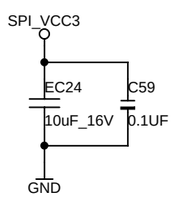


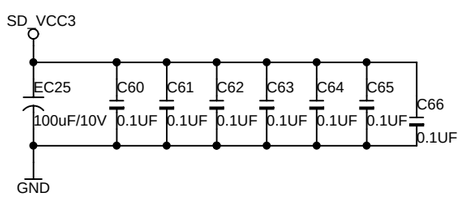


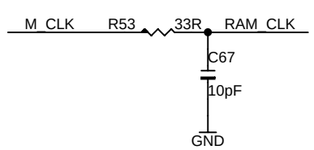
SPI Mode Setting

	2bit	1bit
R47	NC	0
R50	0	NC









CIRCUIT DIAGRAM-MPEG

SANYO HD850/870

close to connector

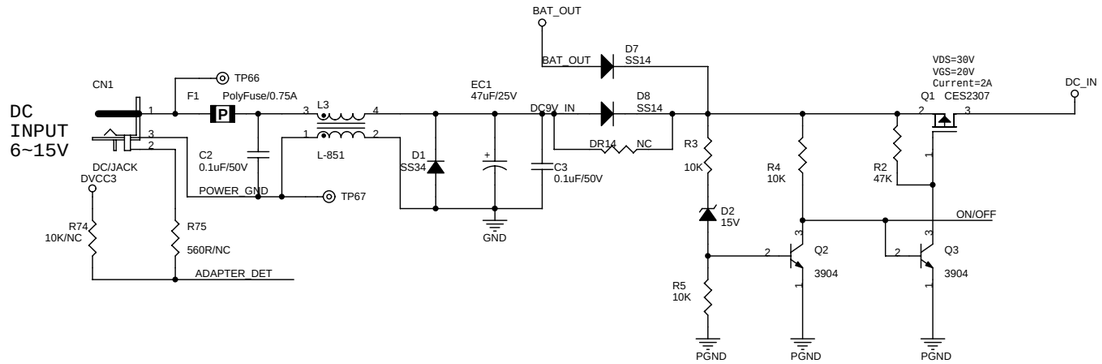
SPHE8202PS-A

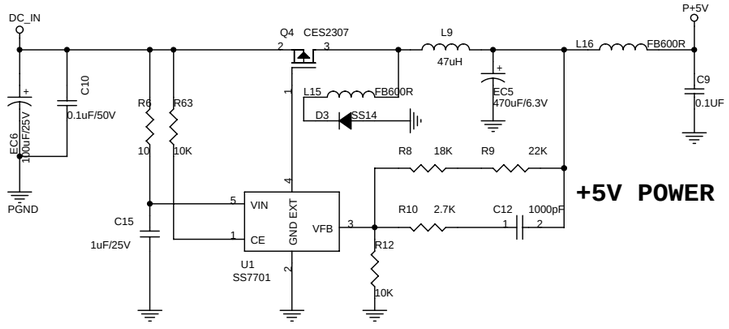
RESET

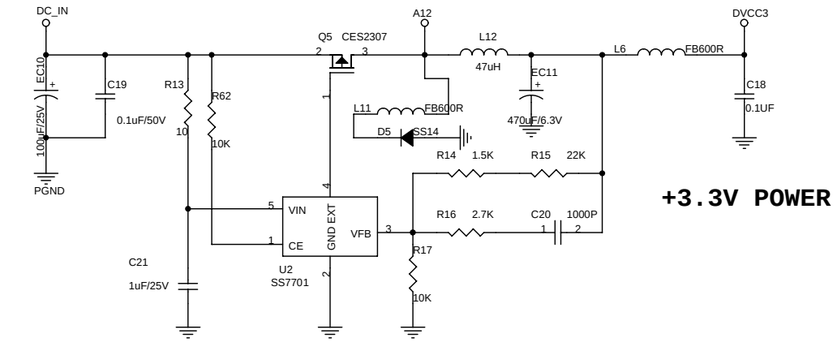
The Cover Limit Switch

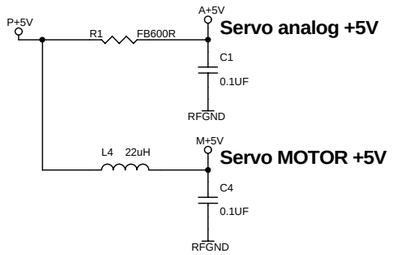
UART/I2C

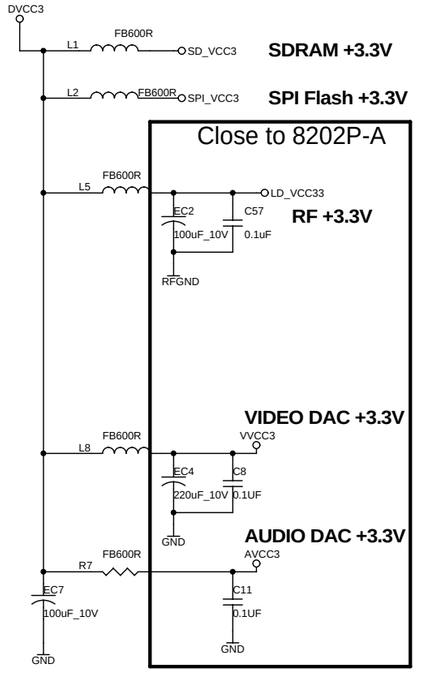
CIRCUIT DIAGRAM-POWER

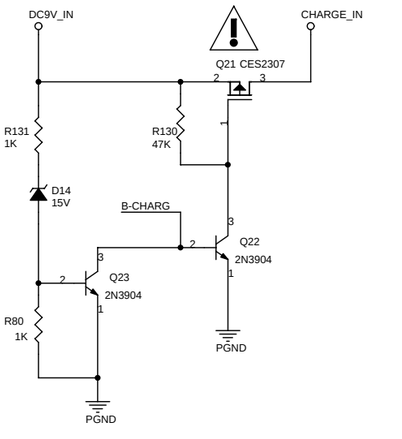




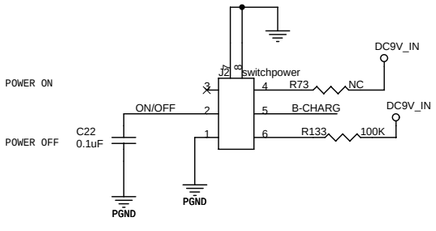


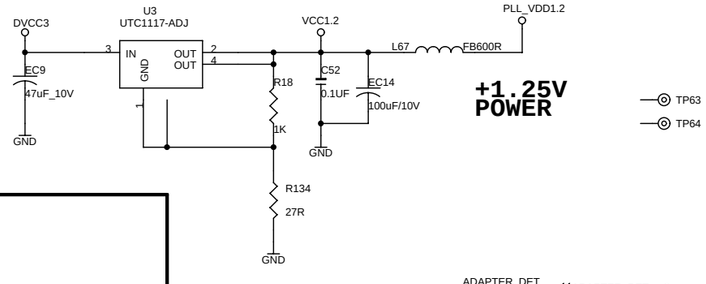


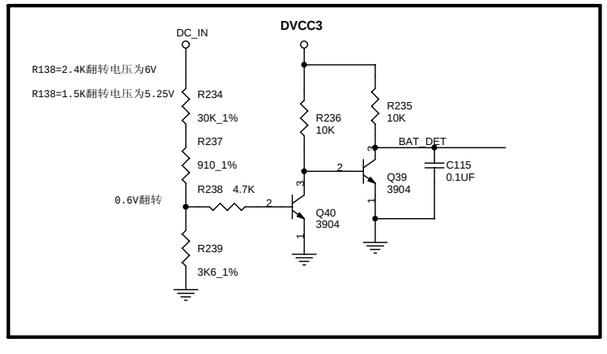


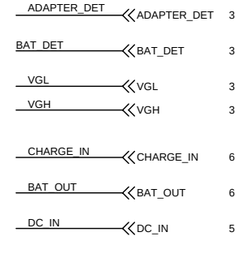


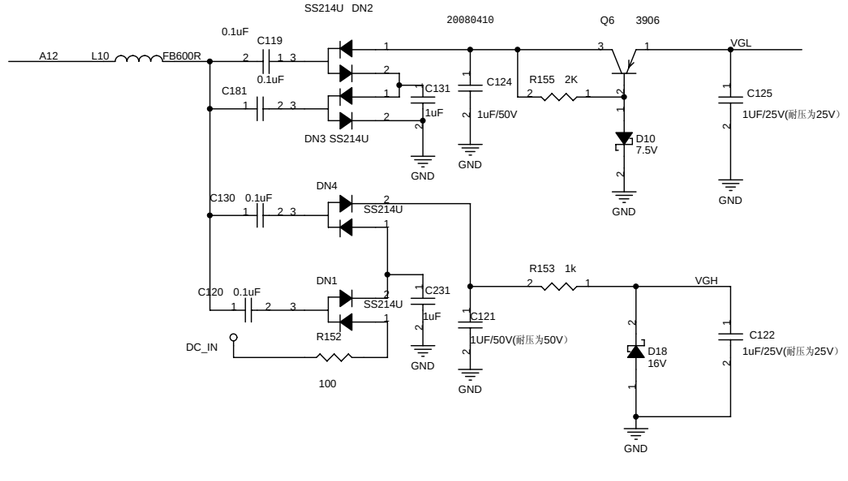
POWER Switch



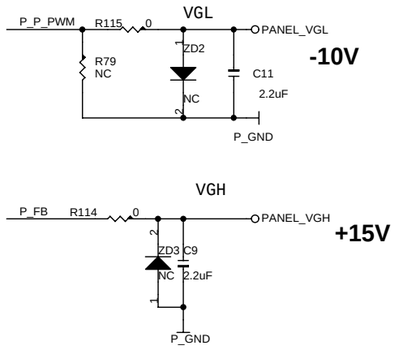


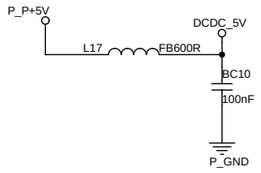


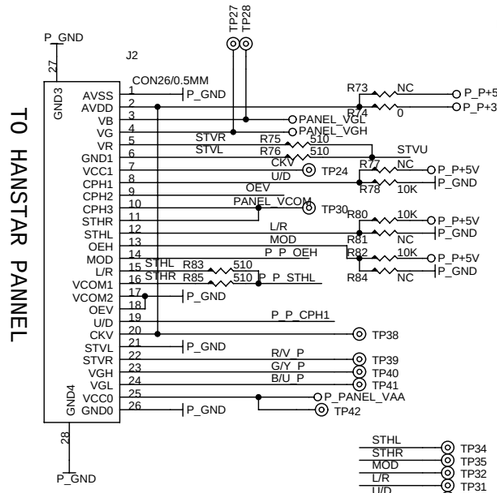


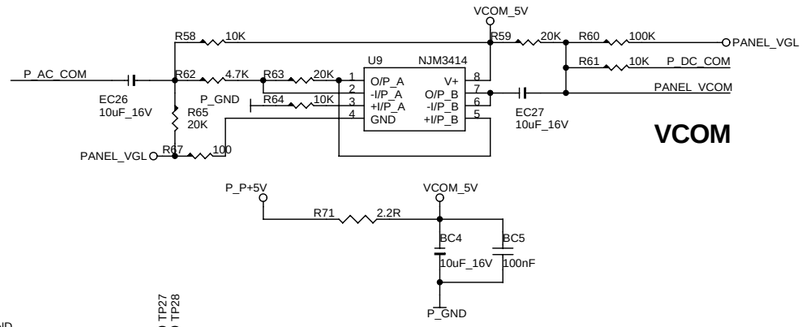


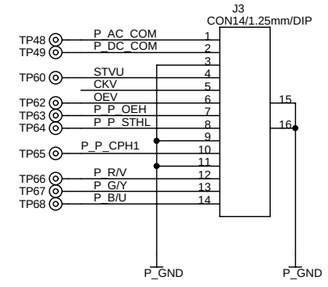
CIRCUIT DIAGRAM-TFT

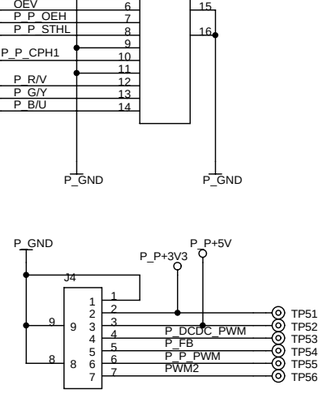


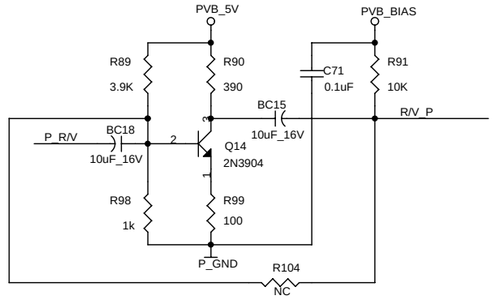


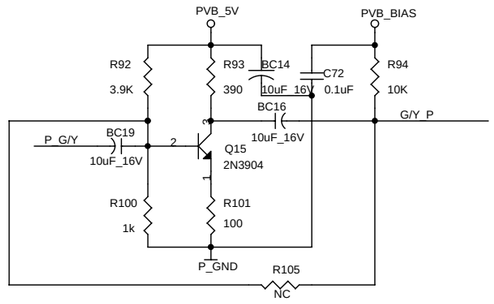


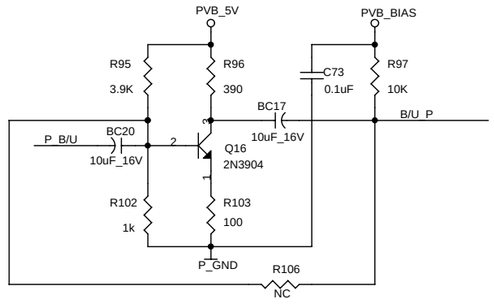


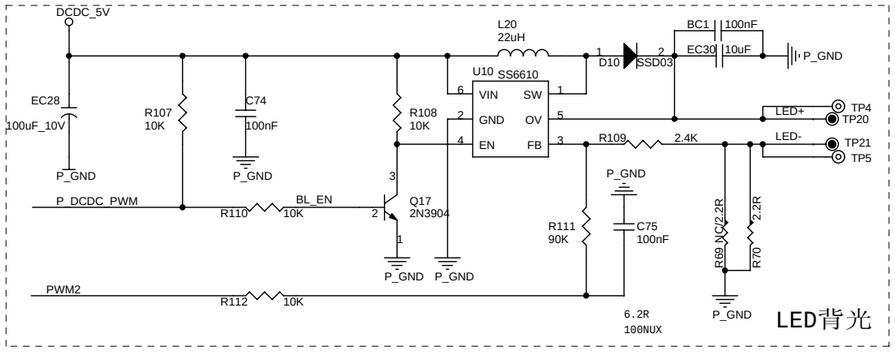


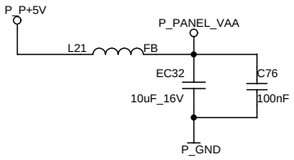


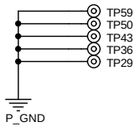


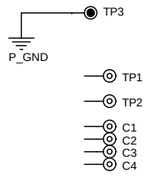


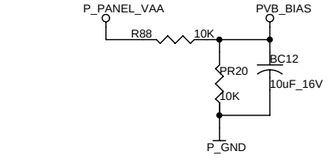


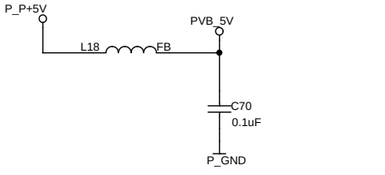




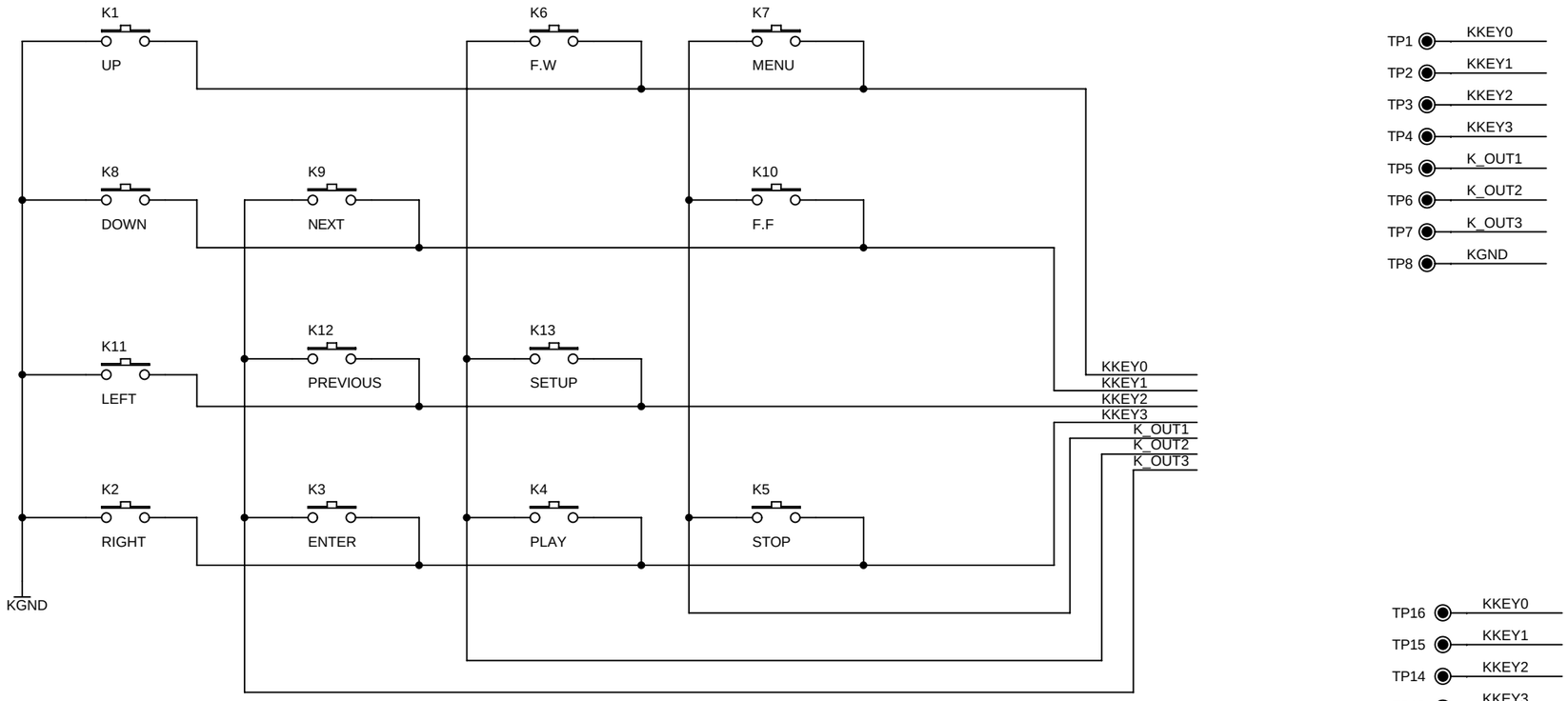


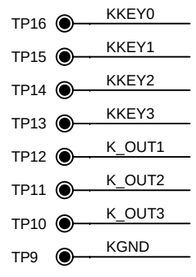


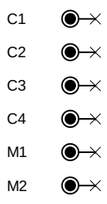




CIRCUIT DIAGRAM-KEY

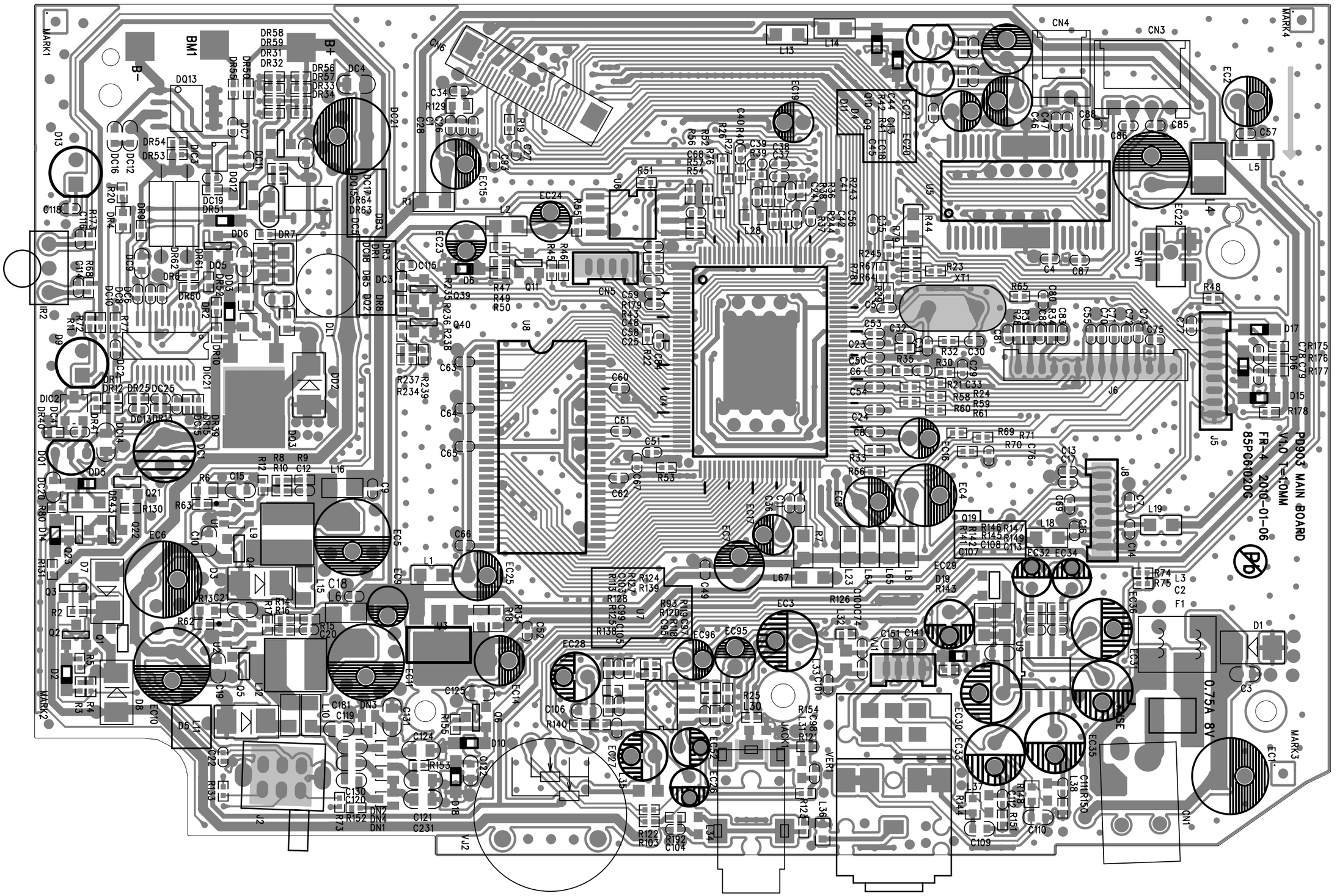




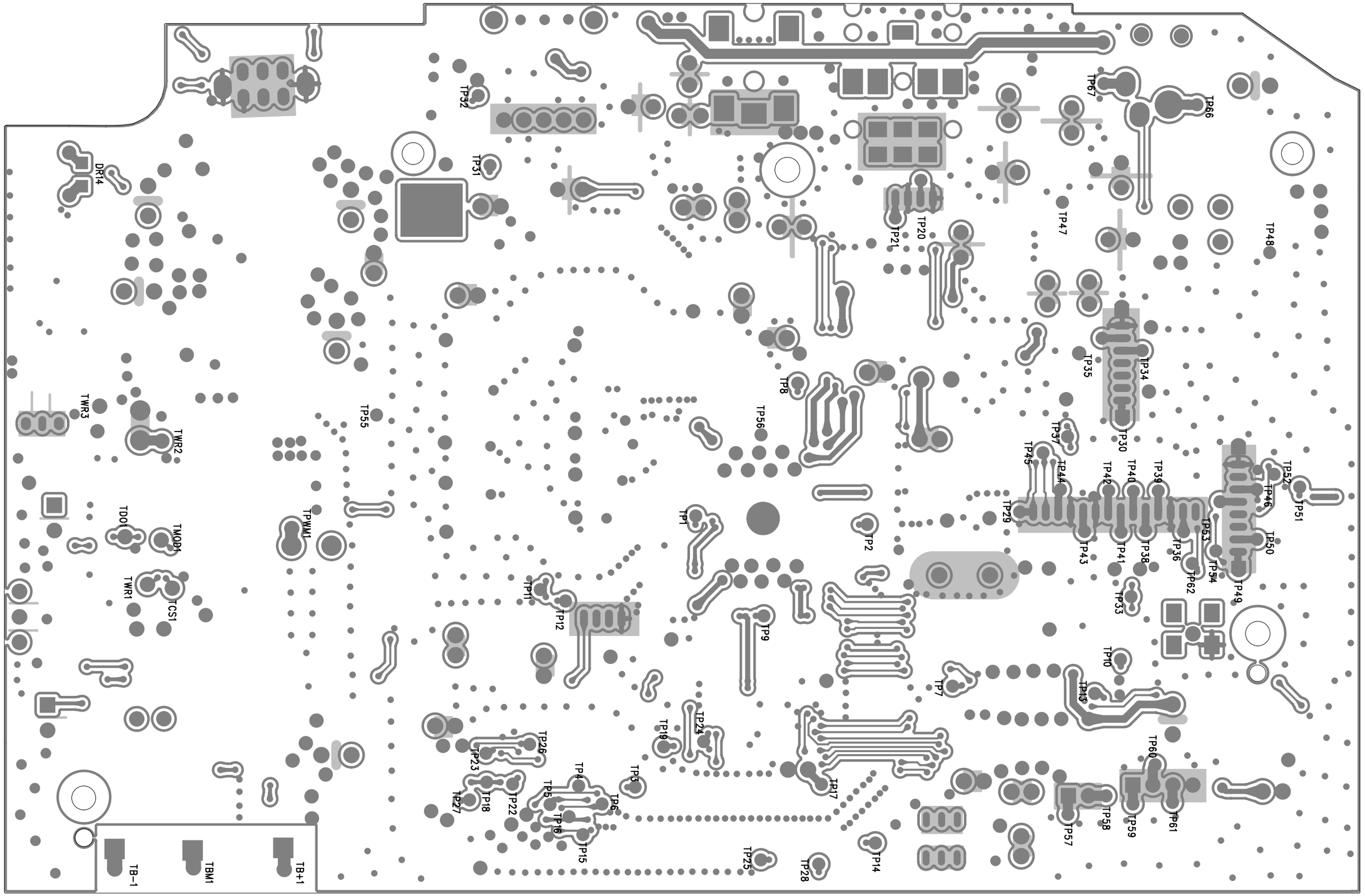


KEY_BOARD

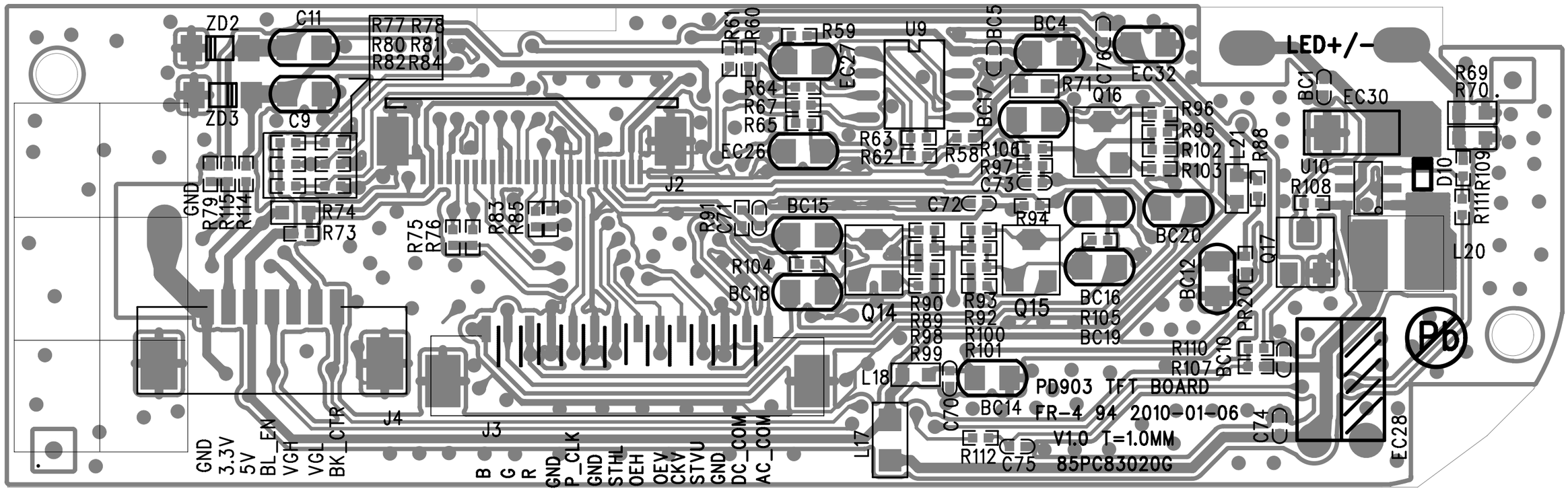
MAIN TOP PCB·


PD903 MAIN BOARD
V1.0 T=COMM
FR-4 2010-01-06
85P861020C
0.75A 8V
MARK1
MARK2
MARK3
MARK4
B+
B-
BM1
CN1
CN3
CN4
CN5
CN6
J5
J6
J8
SW1
XT1
U1
U2
U3
U4
U5
U6
U7
U8
U9
U10
U11
U12
JACK
VER
FUSE

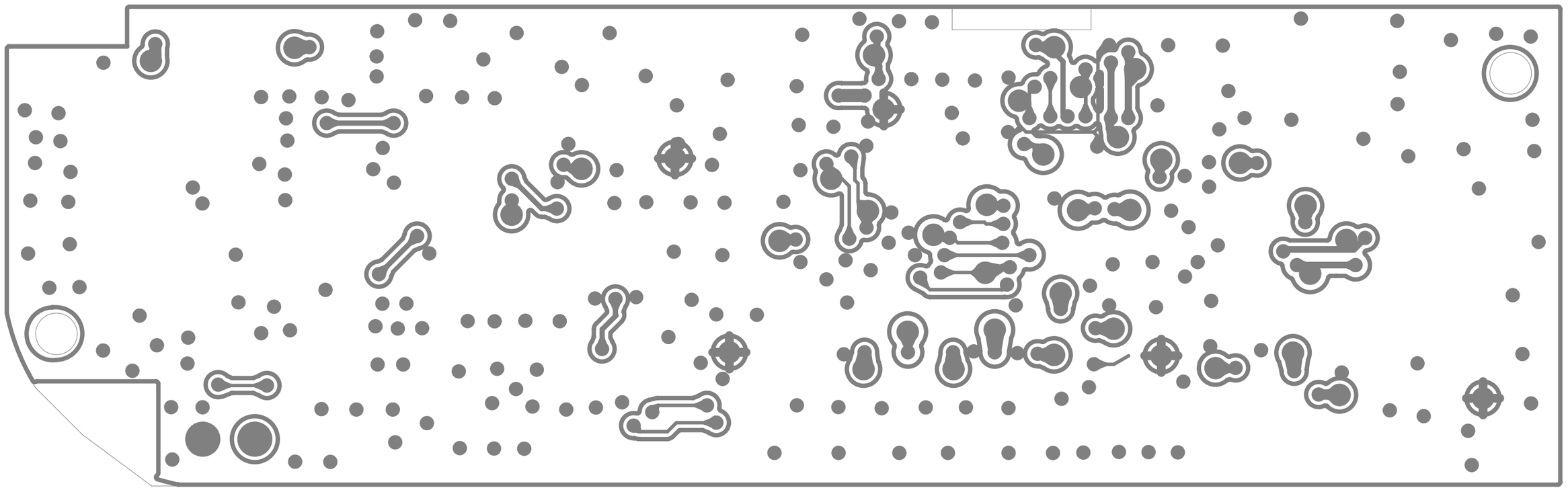
MAIN BOTTOM PCB



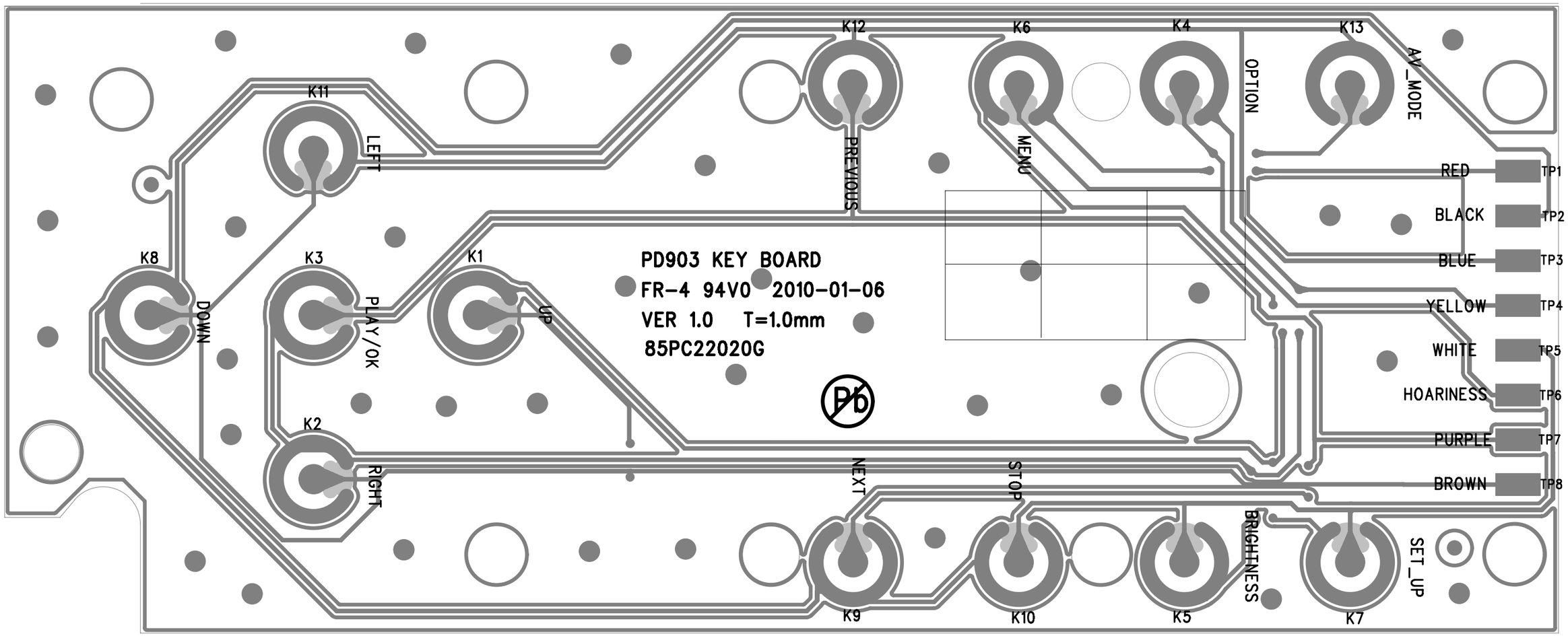
TFT TOP PCB


ZD2
ZD3
C11
C9
R77 R78
R80 R81
R82 R84
R74
R73
R75
R76
R83
R85
R79
R115
R114
GND
J2
J4
J3
R61
R60
R59
U9
R64
R67
R65
EC27
EC26
R63
R62
R58
BC5
BC7
BC4
C76
EC32
R71
Q16
R106
R97
C73
C72
R94
BC15
R91
C71
R104
BC18
Q14
Q15
R90
R89
R98
R99
R93
R92
R100
R101
BC16
R105
BC19
BC20
L18
L17
C70
BC14
R112
C75
R96
R95
R102
R103
L21
R88
BC1
EC30
U10
R108
D10
R69
R70
R111
R109
L20
BC12
Q17
R110
R107
BC10
R20
C74
EC28
P6
LED+/-
PD903 TFT BOARD
FR-4 94 2010-01-06
V1.0 T=1.0MM
85PC83020G
GND
3.3V
5V
BL_EN
VGH
VGL
BK_CTR
B
G
R
GND
P_CLK
GND
STHL
OEH
OEV
CKV
STVU
GND
DC_COM
AC_COM

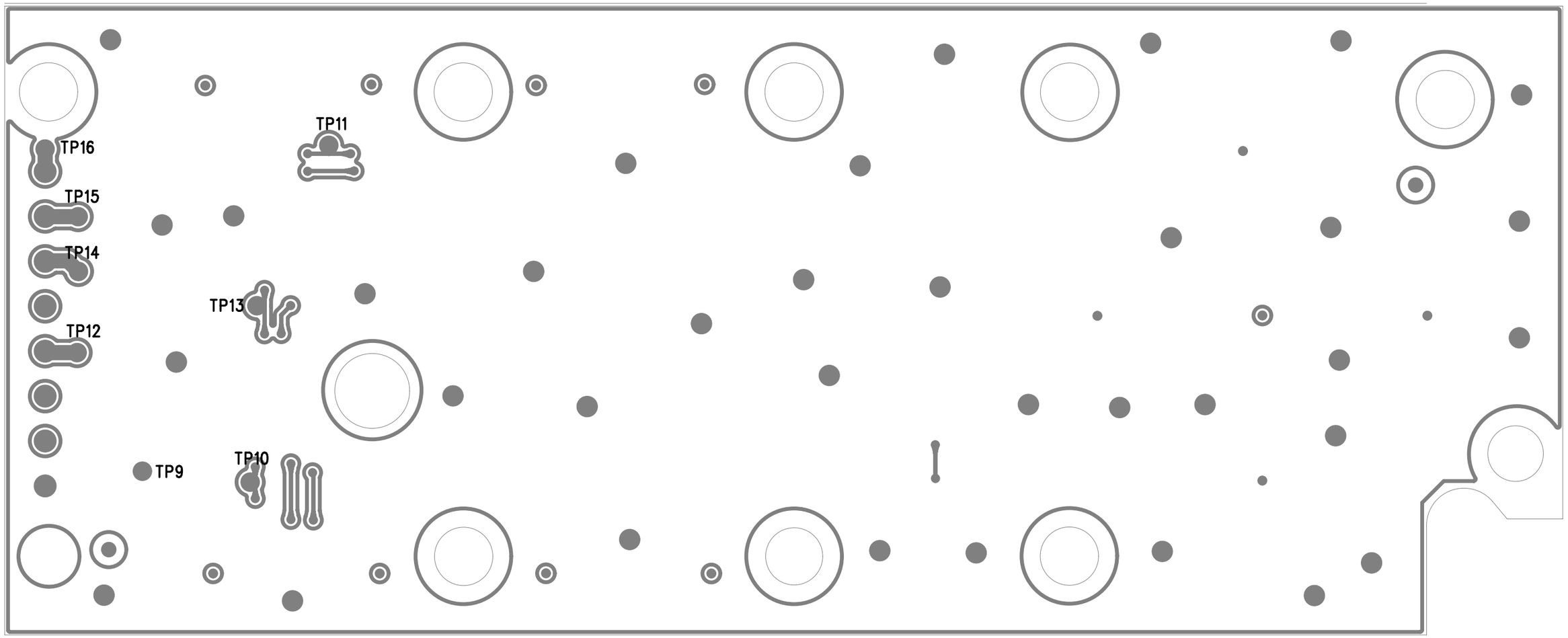
TFT BOTTOM PCB



KEY TOP PCB


K11
LEFT
K12
PREVIOUS
K6
MENU
K4
OPTION
K13
AV_MODE
RED
TP1
BLACK
TP2
BLUE
TP3
YELLOW
TP4
WHITE
TP5
HOARINESS
TP6
PURPLE
TP7
BROWN
TP8
K8
DOWN
K3
PLAY/OK
K1
UP
PD903 KEY BOARD
FR-4 94V0 2010-01-06
VER 1.0 T=1.0mm
85PC22020G
K2
RIGHT
NEXT
K9
STOP
K10
K5
BRIGHTNESS
K7
SET_UP

KEY BOTTOM PCB



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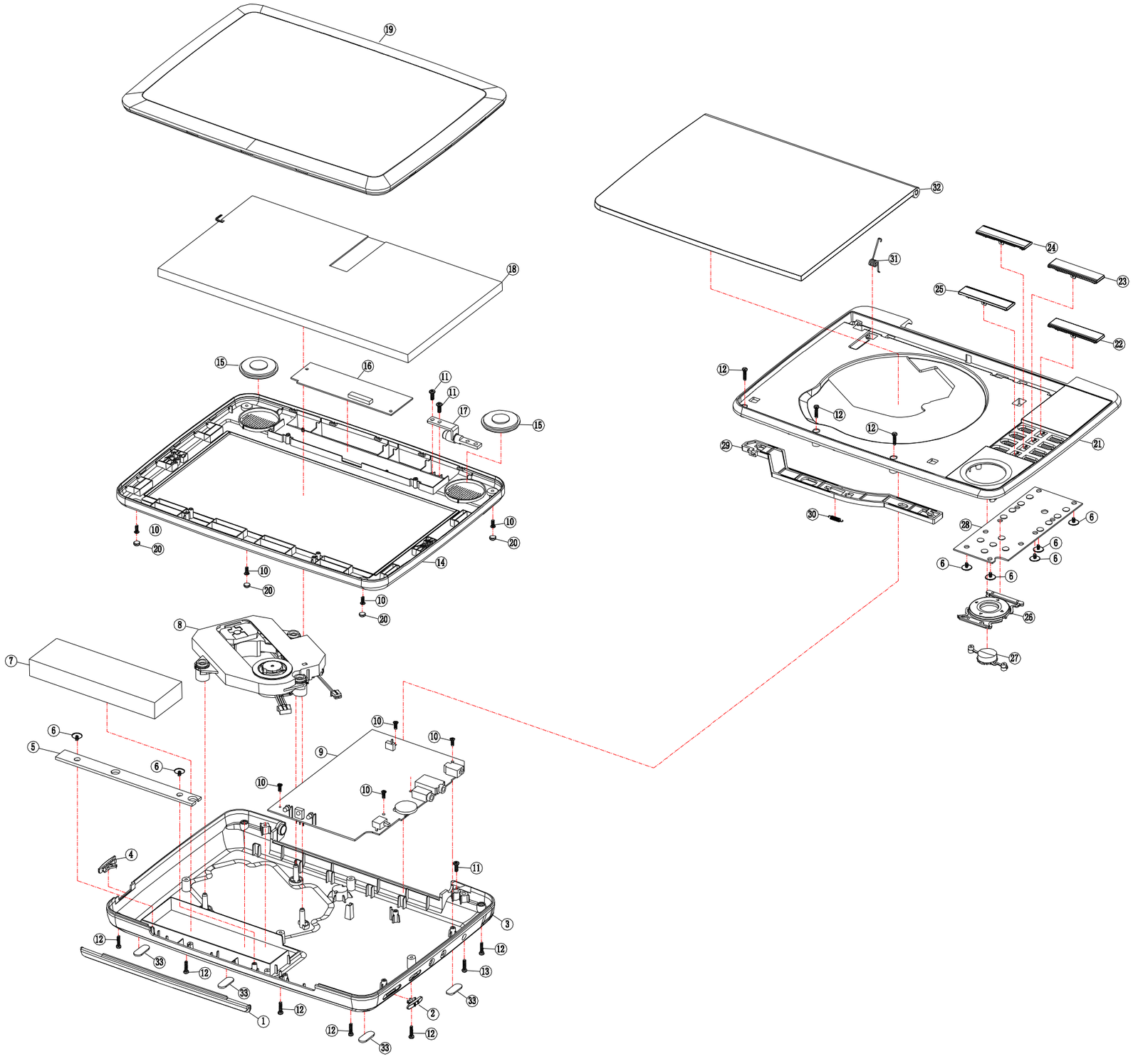
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9.0 REVISION LIST

Version 1.0
- Initial release

Version 2.0
- Add versions